

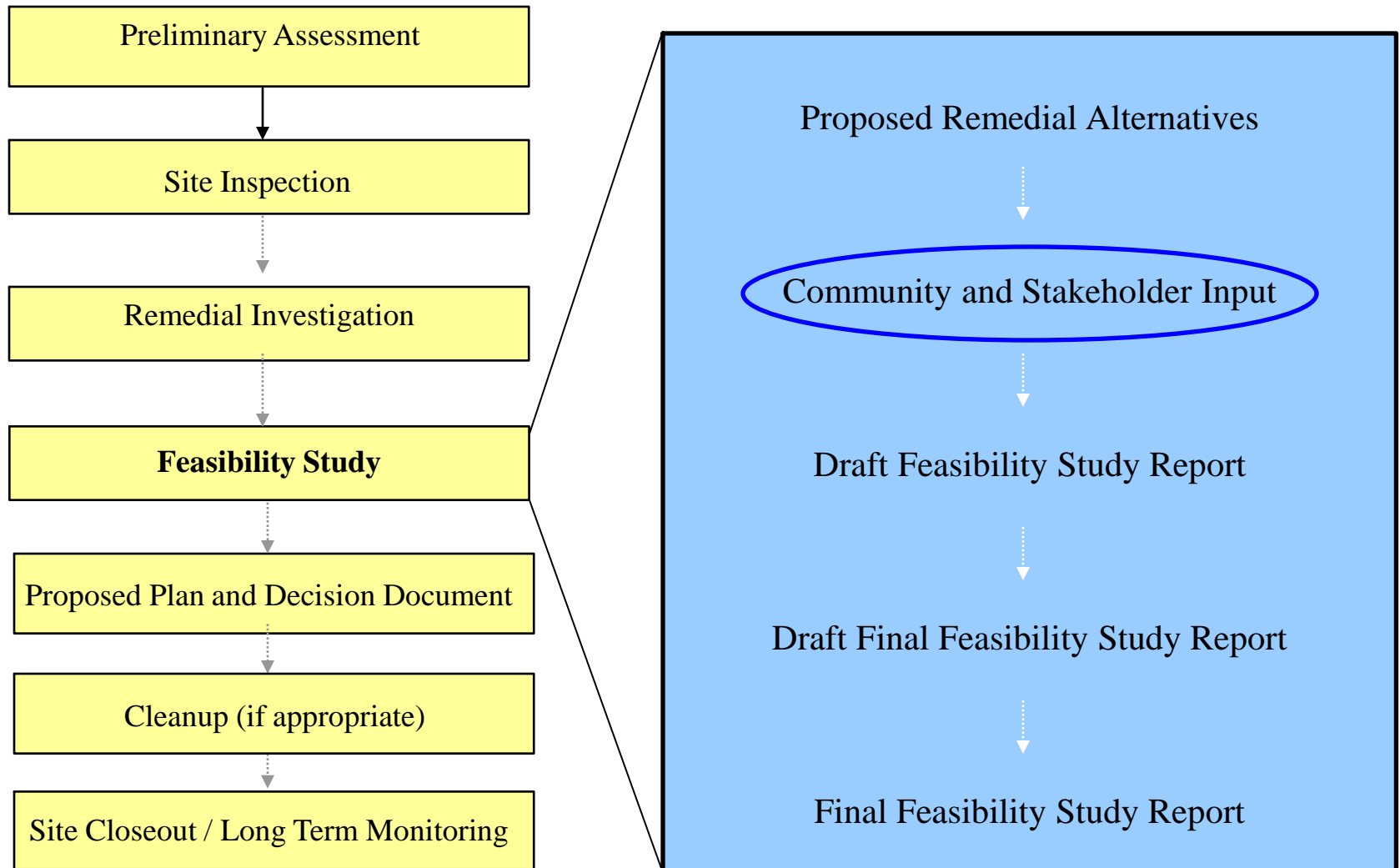


Waikane Valley Feasibility Study

*Waikane Valley Restoration Advisory Board Meeting
01 December 2010*



Waikane Valley Impact Area Progress





Topics



- **Describe FS process**
 - Identify treatment technologies
 - Select remedial alternatives
 - Analyze and compare remedial alternatives
 - Recommend remedial alternatives
- **FS Project Schedule**





Remedial Investigation (RI) and Feasibility Study (FS)



The RI is an investigative phase designed to:

- Characterize site conditions, nature and extent of hazard, and level of risk posed by MEC and MC;
- Obtain data to evaluate remedial alternatives if the site poses an unacceptable risk;

The FS is an evaluation of remedial options designed to:

- Develop and evaluate potential remedies that permanently and significantly reduce the risk to public health, and the environment;
- Selects a cost-effective remedial action alternative that mitigates the risk(s); and
- Obtain stakeholder input regarding the selected response action



Feasibility Study Process



- **Identify potential treatment technologies**
- **Screen technologies**
- **Compile technologies into remedial alternatives**
- **Conduct a detailed analysis of each remedial alternative**
- **Analyze remedial alternatives against 9 EPA criteria and against each other.**





EPA Comparison Criteria



1. **Protection of human health and the environment**
2. **Compliance with applicable relevant and appropriate requirements**
3. **Long-term effectiveness and permanence**
4. **Reduction in toxicity mobility or volume through treatment**
5. **Short-term effectiveness**
6. **Implementability**
7. **Cost**
8. **State acceptance**
9. **Community acceptance**



Typical Remedial Alternatives



For munitions sites, the treatment technology is typically limited to two remedial alternatives:

1. Land Use Controls:

- Administrative controls
- Engineering controls
 - Fencing/signage

2. Clearance:

- Instrument aided
 - Surface
 - Subsurface

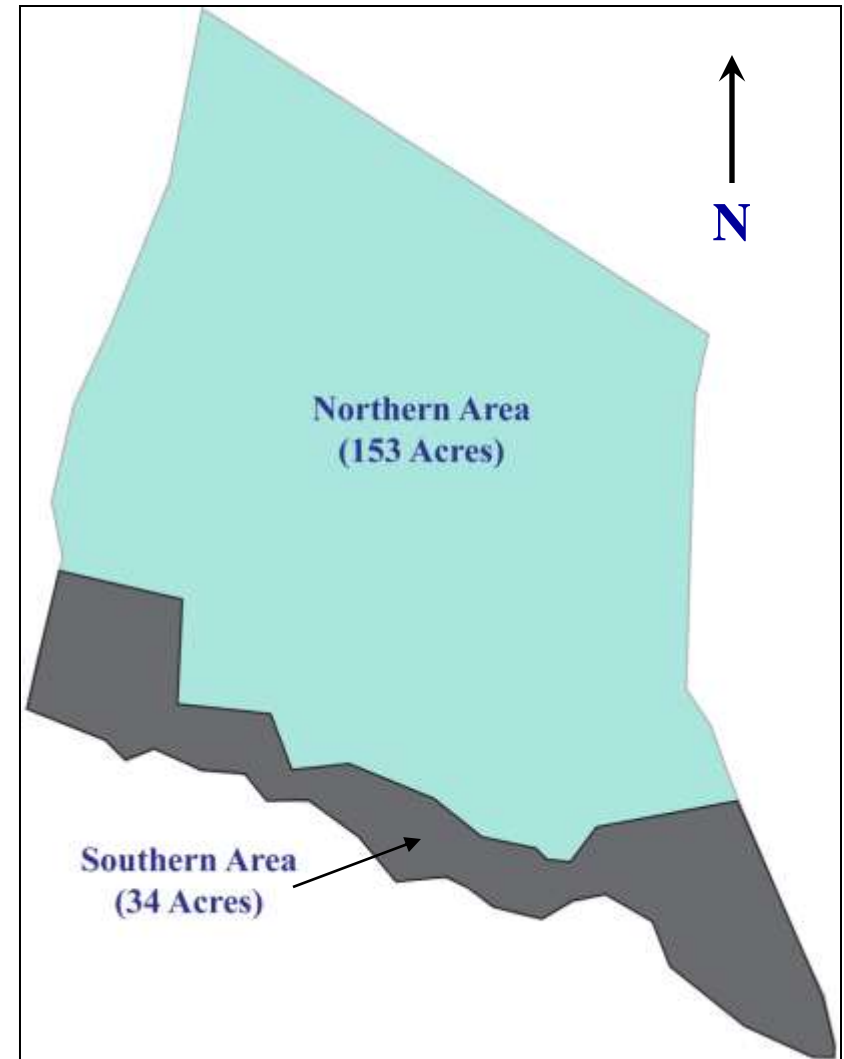




RI Risk Assessment Results



- **Human Health and Ecological Risk Assessment**
 - No unacceptable risks to human or ecological receptors from MC at the site under current or potential future land uses.
- **Explosive Hazards**
 - 2 MEC hazard areas were identified using the results of the SI and RI.
 - Northern area north of Waikane Stream (153 acres)
 - Southern area (approximately 34 acres)



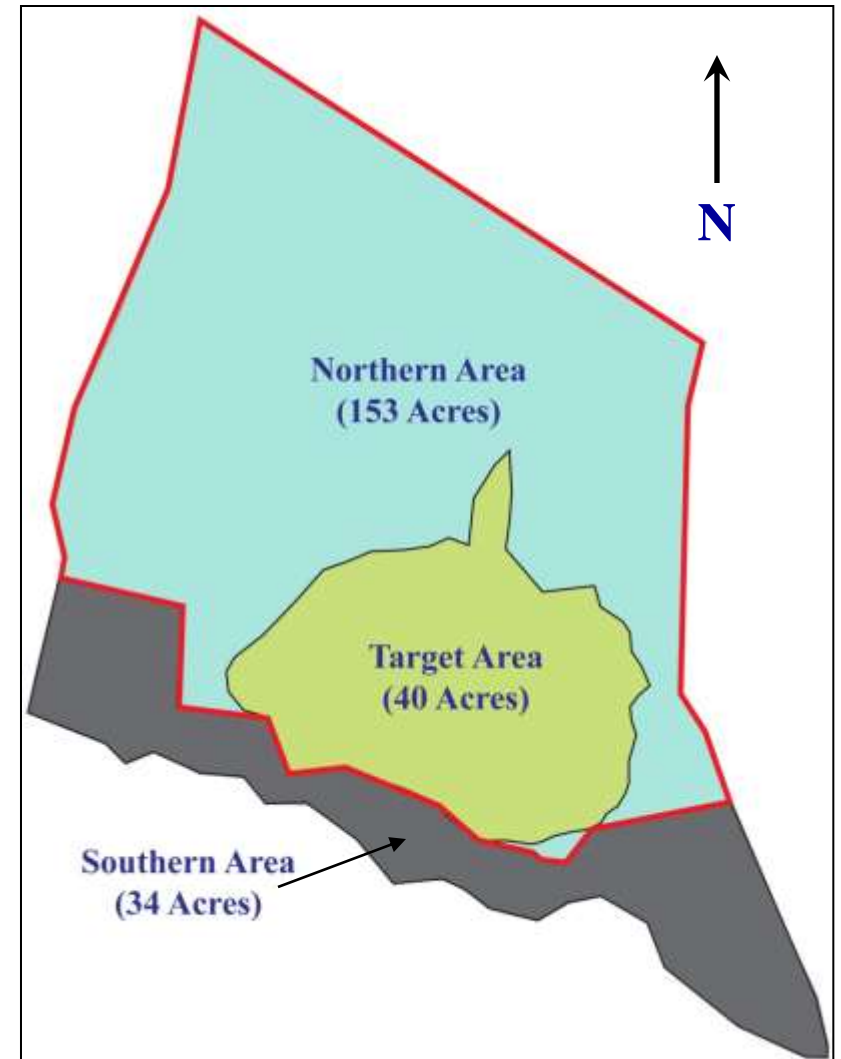


Northern Area



The RI recommended a FS on the Northern area(s) considering the following remedial alternatives:

- **Target Area (40 acres)**
 - No Action: Hazard level 1
 - Fencing Alternative: Hazard level 2
 - Clearance Alternative: Hazard level 3
- **Non-Target Area (113 acres)**
 - No action/Fencing Alternative: Hazard level 3
 - Clearance Alternative: Hazard level 4



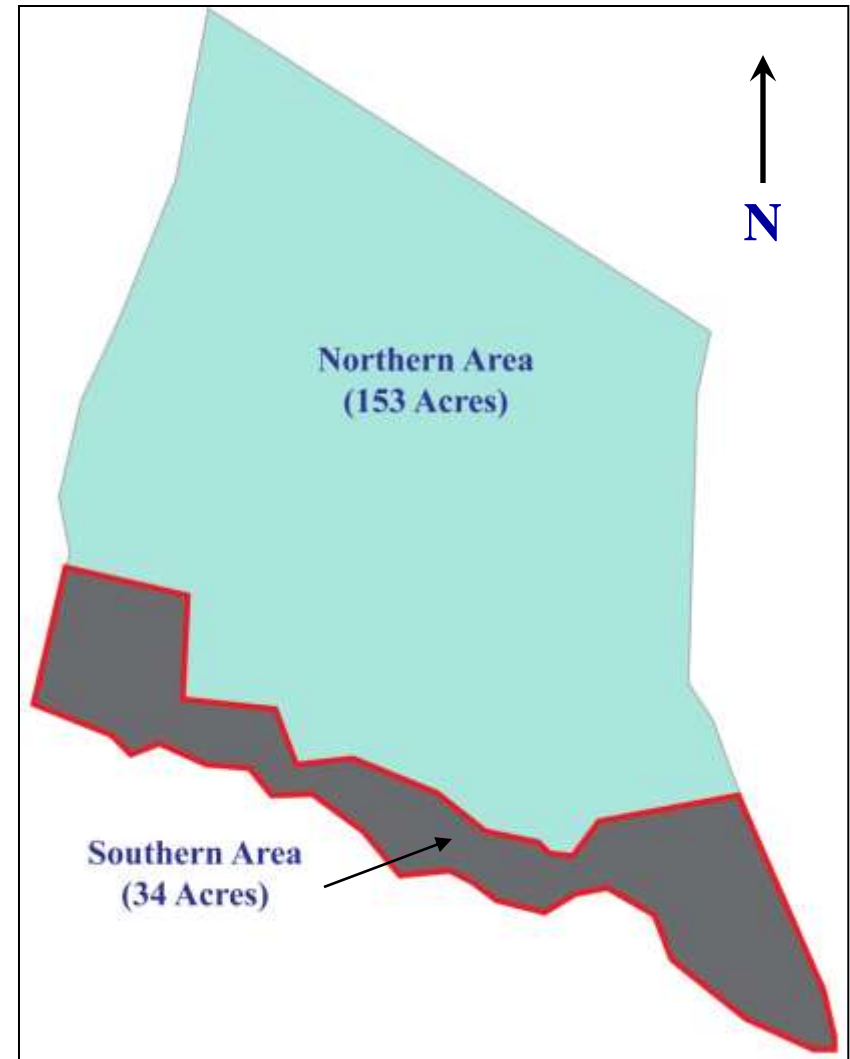


Southern Area



The RI recommended a FS on the Southern Area considering the following remedial alternatives.

- No action (unrestricted land use)
- Land use controls/land use restrictions





Potential Land Uses



| Area | Remedial Option | Land Use | Limitations/Impacts |
|---------------|---|----------------------------|---|
| Northern Area | No Action | Government Use | No public access without UXO escort |
| | Land Use Controls - LUCs (Fence /signs) | Government Use | No public access without UXO escort |
| | Partial Surface Clearance with LUCs | Recreational (e.g. Hiking) | Severe slopes, UXO detection technology limitations, requires vegetation clearance which could result in severe erosion, threat to worker safety |
| | 100% Surface Clearance with LUCs | Recreational (e.g. Hiking) | Severe slopes, UXO detection technology limitations, requires deforestation which could result in severe erosion, threat to worker safety |
| | Partial Subsurface Clearance with LUCs | Recreational, Agricultural | Severe slopes, technology limitations, vegetation clearance and could result in severe erosion, threat to worker safety |
| | 100% Subsurface Clearance with LUCs | Recreational, Agricultural | Severe slopes, technology limitations, requires deforestation, loss of cultural sites and could result in severe erosion, threat to worker safety |
| Southern Area | No Action | Unrestricted use | None |
| | LUCs | Residential/Agricultural | Excavation restrictions |



FS Project Schedule



- **Land Use Comments (01 January 2011)**
- **Draft Feasibility Study (June 2011)**
- **Public Comment Period (July 2011)**
- **RAB Meeting (Tentative) (June 2011)**
- **Draft Final FS (August 2011)**
- **Public Comment Period (September 2011)**
- **Final Feasibility Study Report (November 2011)**







Information Repositories



- University of Hawaii at Manoa
Hamilton Library, Hawaiian & Pacific
Collection
2550 McCarthy Mall
Honolulu, HI 96822
Ms. Jean Kusano (ph. 956.8227)
- Kaneohe Public Library
45-829 Kamehameha Hwy.
Kaneohe, HI 96744
Mr. Tom Churma (ph. 233.5674)
- KEY Project
45-200 Waihee Road
Kaneohe, HI 96744
Ms. Lanette Mahelona
(ph. 239.5777)
- Marine Corps Base Hawaii web site

**Lifelong Learning**

Marine Corps Base Hawaii
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Installations, Environment & Logistics Directorate (IE&L)
Environmental Compliance and Protection Department

Waikane Valley RAB

Work Plans and Reports

RAB Charter

Meetings

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Thank You



Questions?

